Appl. No.:   09/651,924
Amdt. dated February 12, 2004
R ply to Office action of December 3, 2003

REMARKS/ARGUMENTS

    Applicants received the Office Action dated December 3, 2003, in which the Examiner: (1) rejected claim 14 as anticipated by Forin (U.S. Patent No. 6,594,701); (2) rejected claims 1-5, 7-12 and 15-20 as obvious over Forin in view of Hagersten (U.S. Patent No. 5,958,019); and (3) rejected claims 6 and 13 as obvious over Forin, Hagersten, and Shah (U.S. Patent No. 6,347,337). Applicants amend the specification and claims 1, 7, 9 and 14 as well as submit new claims 21-24. Based on the amendments and arguments contained herein, Applicants believe all pending claims to be condition for allowance.

    Applicants amend the specification to fill in the serial numbers on pages 1-3. This amendment does not constitute "new matter."

    Forin is directed to a mechanism for ensuring that a sending process does not overrun a receiving process' ability to receive data from the sending process. "For example, if a sending process sends data to a receiving process faster than the receiving process can receive and process the data, data may be lost or overwritten." Col. 1, lines 25-27. Thus, Forin is concerned with buffer overrun. Forin attempts to solve the problem of buffer overrun by issuing "credits" to the sender. The "credits" to which Forin refers are defined as being the size of the buffers in the receiver. The sender uses the credits (buffer sizes) to determine when new data can be sent to the receiver. Forin is not directed to issuing credits to a plurality of senders to control access to the receiver by the senders.

    Hagersten is directed to performing a synchronization operation in a multi-processor system. Hagersten's synchronization operation appears to be completely unrelated to the issues in this response.

    Applicants amend claim 1 to require that the "memory controller allocates the memory requests from the plurality of processors...using a credit-based allocation scheme."[1] The limitation is not taught or suggested by Forin. The Examiner appears to concede this deficiency in Forin. See Office Action, page 4.

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[1] Applicants also amend claim 1 to remove the reference to the "input/output" device. This limitation is considered unnecessary for patentability. A similar amendment is made to claim 7.

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The Examiner used Hagersten for its teaching of a plurality of processors. Hagersten, however, has nothing at all to do with controlling the flow of memory requests from a plurality of processors using a credit-based allocation scheme. Further, neither Forin nor Hagersten is directed to solving the problem solved by Applicants' claimed invention (i.e., avoiding monopolization of a memory by one processor out of a plurality of processors). As such, there is no motivation to combine Forin and Hagersten absent the teachings provided by Applicants. *See In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992) ("It is impermissible to use the claimed invention as an instruction manual...to piece together the teachings of the prior art so that the claimed invention is rendered obvious."). For any or all of these reasons, claim 1 and all claims that depend on or from claim 1 are allowable over Forin and Hagersten.

Applicants amend claim 7 to change the designation of "other" processors to "remote" processors. This amendment is made merely to avoid any antecedent basis problems and not for reasons of patentability and certainly not to narrow the scope of the claim in any way. Applicants also amended claim 7 to clarify that "credits" are "used by said processor and by said remote processors." Thus, claim 7 requires more than one processor to use the credits that, as explained above, are not taught or suggested by the art of record. At least for this reason, claim 7 and all claims dependent on or from claim 7 are allowable.

Applicants amend claim 8 to correct an inadvertent typographical error.

Applicants amend claim 14 to clarify that the credits are assigned to "each of a plurality of sources." For the reasons stated above, claim 14 and all claims dependent on or from claim 14 are allowable.

Applicants submit new claims 21-24. New independent claim 21 is directed to a system comprising a "plurality of sources" and a "receiver." The receiver comprises a controller that "permits said sources to provide requests to said receiver based on credits issued by said receiver to said sources." This feature is not taught or suggested by the art of record. Dependent claim 22 sp cifies that "each credit corresponds to a single request," whereas in Forin each credit corresponds to a buffer size. Dependent claim 24 specifies that

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credits are issued "to avoid a source from having exclusive access to said receiver to the exclusion of the other sources." As explained above, Forin's credit system is not at all concerned with issue.

In the course of the foregoing discussions, Applicants may have at times referred to claim limitations in shorthand fashion, or may have focused on a particular claim element. This discussion should not be interpreted to mean that the other limitations can be ignored or dismissed. The claims must be viewed as a whole, and each limitation of the claims must be considered when determining the patentability of the claims. Moreover, it should be understood that there may be other distinctions between the claims and the prior art which have yet to be raised, but which may be raised in the future.

Applicants respectfully request that a timely Notice of Allowance be issued in this case. If any fees or time extensions are inadvertently omitted or if any fees have been overpaid, please appropriately charge or credit those fees to Hewlett-Packard Company Deposit Account Number 08-2025 and enter any time extension(s) necessary to prevent this case from being abandoned.

Respectfully submitted,

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